

REMARKS

Claims 9-16 are pending in this application. By this Amendment, claim 9 is amended for clarity, and claims 9 and 11 are amended to correct an error in translation and replace the word "hydronium" with "hydrogen", in accordance with the Examiner's recommendation. Support for the amendments to claim 9 and 11 can be found, for example, in the specification as filed at paragraph [0015]. Support for the further amendment to claim 9 can be found, for example, in the specification as filed at page 7, lines 13-20.

The courtesies extended to Applicants' representative by Examiner Laios at the interview held December 5, 2008, are appreciated. The reasons presented at the interview as warranting favorable action are incorporated into the remarks below, which constitute Applicants' record of the interview.

I. Amendments To The Abstract And Specification

At the Examiner's recommendation, Applicants have amended the specification and the Abstract to reference hydrogen ions rather than hydronium ions.

II. Rejections Under 35 U.S.C. §102(b)

The Office Action rejects claims 9 and 11-16 under 35 U.S.C. §102(b) as allegedly being anticipated by U.S. Patent No. 5,928,804 ("Leddy"). Applicants respectfully traverse this rejection.

Leddy describes a magnetic composite possibly useful as a coating for an electrode. Leddy, column 5, lines 52-60, and claims 1-2. Thus, Leddy discloses a composition that is attached to an electrode, not a network of magnets each having an axis perpendicular to and crossing a plane of interface between the electrolyte and active layer of a fuel cell, as recited in claim 9. The network of magnets recited in claim 9 comprises first and second poles of the magnets of the network respectively arranged in both the active layer and the electrolyte. Therefore, as the magnets extend into two layers of the fuel cell, they are not merely a coating

on an electrode. Accordingly, Leddy does not describe the fuel cell and network of magnets recited in claim 9, and thus fails to anticipate claims 9-16.

The Office Action cites Leddy at column 28, lines 17-20, where Leddy describes a magnetic gradient aligned perpendicular to an electrode surface in support of the rejection. This magnetic gradient is used to align magnetic beads on the electrode surface such that a magnetic gradient is formed in one coordinate and the density gradient in another with the beads on the surface but not in columns perpendicular to the surface. Leddy, column 28, lines 17-20. Claim 9, however, recites a network of permanent magnets having magnetic axes perpendicular to and crossing a plane of interface between the electrolyte and the active layer of a fuel cell. Leddy's description does not describe this feature.

The magnetic field in Leddy is used merely to position the magnetic particles on the surface of the electrode, the magnetic field being perpendicular to the electrode surface.

However, in Fig. 18B, Leddy shows that the magnetic microbeads 812 are aligned parallel to the surface of the electrode 804. Furthermore, the cited passage of the specification (Leddy, column 28, lines 17-23) is not clear. It only indicates that the magnetic beads are placed on the electrode surface, but not in columns perpendicular to the surface.

Nowhere does Leddy describe either magnets arranged in both the active layer and the electrolyte of a fuel cell, or magnets each having an axis perpendicular to and crossing a plane of interface between the electrolyte and active layer of a fuel cell, as recited in claim 9.

The actual function of the coating is not explicit in Leddy. The cathode coating of Leddy et al could be considered either as forming the active layer of the cathode or as constituting the electrolyte, located between the anode and the cathode. In both cases, the magnetic microbeads remain entirely embedded in this coating. The magnetic microbeads are thus either totally within the active layer of the cathode or totally within the electrolyte. In both cases, irrespective of their orientation parallel or perpendicular to the cathode surface,

they do not have magnetic poles respectively arranged in the active layer of the cathode and in the electrolyte, as recited in claim 9.

For at least the foregoing reasons, Leddy fails to anticipate claims 9-16. Withdrawal of the rejection is respectfully requested.

III. Rejection Under 35 U.S.C. §102(b) or §103(a)

The Office Action rejects claim 10 under 35 U.S.C. §102(b) or §103(a) as allegedly being unpatentable over Leddy. Applicants respectfully traverse this rejection.

First, as claim 10 depends from claim 9, for all the same reasons detailed above, Leddy fails to describe or render obvious claims 9 or 10.

Second, the Office Action alleges that the application of a coating containing magnetic particles onto a surface of an electrode will inherently result in the electrode and an electrolytic material being equidistant from the poles of the magnetic particles. Claim 10, however, recites a network of magnets, each magnet having one pole in the active layer, one pole in the electrolyte, and wherein the interface between the electrolyte and active layer is equal distance from the poles of the magnet. Clearly, claim 10 recites magnets with poles within both the active layer and the electrolyte, the poles being positions equally far into each layer, where Leddy only describes magnets upon an electrode and under an electrolyte layer. The magnetic beads of Leddy would thus not reside within the electrode, and thus could not have poles spaced an equal distance within both electrolyte and active layer, as recited in claim 9 and 10.

Third, Leddy fails to provide any reason or rationale that would have led one having ordinary skill in the art to the fuel cell of claim 10.

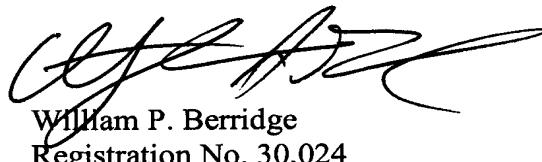
For at least the reasons discussed above, Leddy fails to anticipate or render obvious the subject matter of claim 10. Accordingly, withdrawal of the rejection is respectfully requested.

IV. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 9-16 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



William P. Berridge
Registration No. 30,024

Christopher A. Fasel
Registration No. 59,204

WPB:CAF/can

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OLIFF & BERRIDGE, PLC
P.O. Box 320850
Alexandria, Virginia 22320-4850
Telephone: (703) 836-6400

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